Amendment to the Claims

This listing of claims will replace all prior versions and listings of claims in the above-referenced application.

1. (currently amended) A transgenic mouse whose genome is heterozygous for a mutation engineered into the Erk5 gene, wherein in a homozygous state said mutation results in a functionally deficient Erk5 gene, failure to produce a functional Erk5 protein, and embryonic death characterized by a lack of vasculogenesis and angiogenesis, and wherein interbreeding of said mouse results in at least some homozygous embryos that fail to produce a functional Erk5 gene and undergo embryonic death characterized by a lack of vasculogenesis and angiogenesis.

2. (currently amended) A cell isolated from the transgenic mouse according to claim 1, wherein said cell is isolated from said mouse at the embryonic stage or at the post partum stage, and wherein said mutation results in a functionally deficient Erk5 gene and lack of expression of mRNA encoding functional Erk5 protein from the gene in said cell.

3. (currently amended) A transgenic mouse embryo whose genome is homozygous for a mutation engineered into the Erk5 gene, wherein said mutation results in a functionally deficient Erk5 gene, failure to produce a functional Erk5 protein, and embryonic death characterized by a lack of vasculogenesis and angiogenesis in said homozygous embryo.

4. (previously presented) A cell isolated from the transgenic mouse according to claim 3.

5. (currently amended) An isolated mouse cell heterozygous for a mutation engineered into the Erk5 gene, wherein said mutation results in a functionally deficient Erk5 gene and lack of expression of mRNA encoding functional Erk5 protein from the gene in said cell, wherein said mutation results in embryonic death characterized by a lack of vasculogenesis and angiogenesis when present in an embryo homozygous for said mutation, and wherein said cell is produced by introducing a mutated Erk5 gene into a mouse cell containing a functional Erk5 gene.

6. (currently amended) A chimeric mouse which comprises cells that are heterozygous for a mutation engineered into the Erk5 gene, wherein in a homozygous state said mutation results in an embryo characterized by a functionally deficient Erk5 gene, failure to produce a functional

Erk5 protein, and a lack of vasculogenesis and angiogenesis and a failure to survive to birth, and wherein interbreeding of said chimeric mouse results in at least some offspring that are heterozygous for a mutation engineered into the Erk5 gene, wherein interbreeding of said heterozygous offspring results in at least some homozygous embryos that fail to produce a functional Erk5 gene and undergo embryonic death characterized by a lack of vasculogenesis and angiogenesis.

7. (currently amended) A cell isolated from the chimeric mouse according to claim 6, wherein said cell is heterozygous for a defect engineered into the Erk5 gene and wherein said mutation results in failure to transcribe a mRNA encoding a functional Erk5 protein from the gene in said cell.

8 - 11. (canceled)

12. (previously presented) The isolated mouse cell according to claim 5, wherein said cell is an embryonic stem cell.

13-21. (canceled)